

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Application of )

PUBLIC UTILITIES COMMISSION )

Instituting a Proceeding to Investigate the )  
Implementation of Feed-in Tariffs. )  
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DOCKET NO. 2008-0273

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COMMISSION

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**HAWAII SOLAR ENERGY ASSOCIATION'S  
OPENING STATEMENT OF POSITION AND  
APPENDIX A: PROPOSAL FOR FEED-IN TARIFF DESIGNS,  
POLICIES, AND PRICING METHODS**

**AND**

**CERTIFICATE OF SERVICE**

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OF THE STATE OF HAWAII

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**HAWAII SOLAR ENERGY ASSOCIATION'S  
OPENING STATEMENT OF POSITION**

TO THE HONORABLE PUBLIC UTILITIES COMMISSION OF THE STATE OF HAWAII:

Pursuant to the Hawaii Public Utilities Commission's (the "Commission") Order Approving the HECO Companies' Proposed Procedural Order, as Modified, Hawaii Solar Energy Association ('HSEA') hereby submits to the Commission its Opening Statement of Position.

**Issue 1: What, if any, purpose do PBFiTs play in meeting Hawaii's clean energy and energy independence goals, given Hawaii's existing renewable energy purchase requirements by the utilities?**

The Public Utilities Regulatory Policy Act ("PURPA"), the renewable portfolio standard, net metering, and PBFiTs are distinct and independent initiatives that were designed and implemented to encourage and/or accelerate the development of renewable energy and/or the efficient use of fossil fuels. These initiatives should be able to co-exist and compliment each other.

If well designed, PBFiTs can be are beneficial for the development of renewable energy by providing predictability and certainty with respect to the future prices to be paid for renewable energy.<sup>1</sup> If rates paid to renewable generators via PBFiT are high enough to provide an attractive risk adjusted rate of return to potential investors, the PBFiT will assist existing and future renewable energy generators in Hawaii meet the state's ambitious clean energy and energy independence goals.

**Issue 2: What are the potential benefits and adverse consequences of PBFiTs for the utilities, ratepayers, and the State of Hawaii?**

Since PBFiTs are based on the premise that the eligible renewable generator will be paid a rate of return sufficiently attractive to induce investment in renewable energy projects, the tariff should serve as an incentive for existing and future renewable generators to do business in Hawaii. This will increase the amount of renewable energy being generated and used in Hawaii. It will also lower oil imports, increase energy security, and increase both jobs and tax base for the state.<sup>2</sup>

The potential benefit of PBFiTs for the utilities is that they will be better able to meet

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<sup>1</sup> See, Hawaii Clean Energy Agreement at 16.

<sup>2</sup> Ibid.

their Renewable Portfolio Standard and the goals laid out in their joint Hawaii Clean Energy Agreement. Also, the potential abundance of renewable energy that will be made available to the utilities will allow them to look at such technologies as battery storage and electrical vehicles in Hawaii. Currently, HSEA can see no potential adverse consequences to the utilities as long as they are committed to exploiting the new opportunities relating to the transmission and distribution of renewable energy that an appropriately designed feed-in tariff will provide them with. Potential adverse consequences will only occur if the utilities are unwilling to adapt to the business opportunities that renewable energy provided under a feed-in tariff presents them with.

The potential benefit of PBFiT's accrue to ratepayers is because they are able to keep more of their dollars for energy consumption in Hawaii and because the system that provides their power will be more stable and less vulnerable to catastrophic disruptions as owing to interruptions in the fuel source for the state. The circulation of monies from renewable energy projects will spur economic development and create a substantial number of green jobs. In order to offer a rate of return sufficient to attract investors, PBFiT's will need to be higher than the utilities' avoided costs. This will result in a higher short-term cost per kWh but very likely will reduce the cost of energy in the state over the longer term by a substantial margin.

The potential benefit of PBFiT's for the State of Hawaii will be that more capital will remain in the State versus being exported to purchase foreign oil. Also, it will also encourage out of state investment and federal matching funds, for renewable energy generation and a "green" tourism industry. Further, the environment in Hawaii will improve with renewable energy generation due to the reduction in greenhouse gases and other environmentally damaging by-products caused by the burning of oil to produce electricity.

**Issue No. 3: Why is or is not the PBFiT the superior methodology to meet Hawaii's clean**

*energy and energy independence goals?*

PBFiT is not necessarily superior for all purposes, all technologies, and all cases, although it has been shown to be highly effective when properly implemented. It does, however, very directly address the primary impediment preventing the much more widespread deployment of solar generating technology in Hawaii. This impediment is the inability of potential investors to achieve a sufficient risk adjusted rate of return on solar projects in the state. A PBFiT set at rates that would enable such investment would overcome the ongoing challenges faced by those who would invest in, install, and operate solar equipment.

*Issue No. 4: What, if any modifications are prudent or necessary to existing federal or state laws, rules, regulations or other requirements to remove any barriers or to facilitate the implementation of a feed-in tariff not based on avoided costs?*

HSEA makes two points in response to this question.

(1) HSEA would like to note that all references to the HECO Companies' Rule 14 were deleted from the collaborative document presented as Appendix A because HSEA has serious concerns with Rule 14.<sup>3</sup> Specifically, HSEA has concerns about Rule 14, Appendix I, Section 2. General Interconnection Guidelines d. Utility Feeder Penetration. This section has a ten percent feeder penetration limit, which may not serve any useful purpose and is inconsistent with the level specified in the Hawaii Clean Energy Agreement. HSEA proposes that the language in this section of Rule 14 be modified to incorporate the 15% per 12 kVa circuit level prior to any study being required. Also, the information provided by the "Location Value Maps" referenced in this section needs to be reevaluated.

HSEA also has concerns about Rule 14, Section 3 Design Requirements, f. Supervisory control. This section states that the utility can require computerized remote control for any

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<sup>3</sup> The HECO/CA proposed tariff sheets made several references to the HECO Companies' Rule 14.

generating facilities with an aggregate capacity of more than 1MW. This requirement creates a “system size benchmark” which third party investors may not want to exceed, fearing additional costs, studies, and remote curtailment. Thus they would only put in systems up to 1MW even if they could use 1.5 MW to offset the customer load. More generally, in the design of a PBFiT rate structure, it is important to clarify that the tariff is not intended to cover things such as communications equipment and other hardware and software necessary to achieve remote control of the facility, that are not currently standard components of solar projects.

(2) A modification to HRS § 269-27.2(c) may be prudent and/or necessary. HRS § 269-27.2(c) states, inter alia, “the [C]ommission shall establish that the rate for purchase of electricity by a public utility shall not be more than one hundred per cent of the cost avoided by the utility when the utility purchases the electrical energy rather than producing the electrical energy.” [Emphasis added]. Such language may be interpreted as restricting the Commission from approving and adopting PBFiTs that exceed the utility’s avoided cost. It is HSEA’s understanding that there are at least two bills at the Legislature to amend HRS § 269-27.2(c) to eliminate said language.

**Issue No. 5: What evidence must the commission consider in establishing a feed-in tariff and has that evidence been presented in this investigation?**

The Commission should weigh and consider any and all types of evidence that it deems to be relevant and/or material in addressing the feed-in tariff pricing scheme being proposed or that should otherwise be established. Evidence should also be provided to demonstrate that the feed-in tariff pricing scheme ultimately established promotes, and does not unduly deter, the facilitation of renewables in the State of Hawaii, pursuant to HRS § 269-6(b) (which specifically

allows the Commission to “consider the need for increased renewable energy use in exercising its authority and duties” under HRS Chapter 269).

Since the Commission’s investigation is still in process and there are many procedural steps left, HSEA cannot currently respond to whether such evidence has been presented in this investigation.

**Issue No.6: What role do other methodologies for the utility to acquire renewable energy play with and without a PBFiT, including but not limited to power purchase contracts, competitive bidding, avoided cost offering and net energy metering?**

HSEA believes strongly that net energy metering (‘NEM’) and a feed-in tariff can and should co-exist, and that which tariff applies should be at the discretion of the customer generator. HSEA believes that it is at odds with sound public policy and/or efforts to encourage the adoption of renewable energy to set up a situation in which, now or in the future, a customer generator would need to purchase more generating equipment than would be necessary to produce power sufficient to offset its own annual load. The only way to accomplish this is to allow customer generators the option of net metering.

**Issue No. 7: What is the best design, including the cost basis, for PBFiTs or other alternative feed-in tariffs to accelerate and increase the development of Hawaii’s renewable energy resources and their integration in the utility system?**

See HSEA’s Proposal for Feed-in Tariff Design, Policies, and Pricing Methods attached as Appendix “A” to this Opening Statement of Position (“HSEA’ Proposal”). HSEA’s proposal is based on a collaborative document with several other interveners in this Docket. However,

HSEA joins the Solar Alliance in taking exception to the definition of “Photovoltaic Generating Facility” in the collaborative document<sup>4</sup>

The definition should not include the word “unconcentrated” and, thus, should be as follows:

“Photovoltaic Generating Facility” means a Renewable Energy Generating Facility that generates electricity from Solar Radiation.

Finally, because of time constraints, HSEA and the several other interveners did not have a chance to review and comment on HECO/CA’s proposed FiT Schedule Agreement. Therefore, where the language of the HSEA proposal differs from the HECO/CA’s proposed FiT Schedule Agreement, the HSEA proposal and this Opening Statement of Position will control.

***Issue 8: What renewable energy projects should be eligible for which renewable electricity purchase methods or individual tariffs and when?***

All renewable energy projects listed in HSEA’s proposal should be eligible for PBFiTs at the rates and terms listed in HSEA’s proposal immediately upon implementation of a FiT tariff by the Commission.

**Issue 9: What is the cost to consumers and others of the proposed feed-in tariffs?**

It is HSEA’s understanding that the proposed feed-in tariffs will be higher than the utilities’ avoided costs. Therefore, the consumer would be paying a premium for their energy consumption to encourage the laudable goal of clean energy and energy independence for

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<sup>4</sup> These exceptions are shown as redlines to the HSEA Proposal attached at Appendix “A”. .



Hawaii.

There is also the danger of a cost to the early entrants of PBFiTs and/or existing IPPs with PPAs of possible curtailment should subsequent PBFiTs result in the instability and/or unreliability of a utility's power grid. To maintain the focus on Hawaii's clean energy and energy independence goals, those curtailed entities should be compensated for lost energy production at the rate of the PBFiT. Knowing that these producers of renewable energy will be compensated for lost production will expand the demand for entrants to this industry.

**Issue No. 10: Should the commission impose caps based upon these financial effects, technical limitations, or other reasons on the total amount purchased through any mechanism or tariff.**

HSEA does not support caps.

**Issue No. 11: What process should the commission implement for evaluating, determining and updating renewable energy purchased power mechanisms or tariffs?**

HSEA is not able to provide a full solution to the challenge faced by the Commission. It does, however, make the following points:

- (1) Every two years is an appropriate review period should be every two (2) years.
- (2) Once a renewable generator has signed a FiT Agreement, the rate it agreed to at the time of executed the FiT Agreement will stay the same for the 20 year term.

**Issue 12: What are the administrative impacts to the commission and the parties of the proposed approach?**

HSEA currently takes no position on this issue.

Respectfully submitted.

DATED: Honolulu, Hawaii, February 25, 2009.



MARK DUDA



CERTIFICATE OF SERVICE

The foregoing Document was served on the date of filing by hand delivery or electronically transmitted to the following Parties:

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MARK DUDA  
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SCHEDULE FIT

Feed-in Tariff – Purchases from Renewable Energy Generating Facilities

Definitions:

For the purposes of this Schedule:

- (1) "Biogas" means a gaseous fuel produced by anaerobic decomposition of organic matter.
- (2) "Biomass" means aquatic or terrestrial plant material, vegetation, or agricultural waste, originating in the State of Hawaii, used as a fuel or energy source.
- (3) "Company" means Hawaiian Electric Company, Inc.
- (4) "Concentrating Solar Power Facility" means a Renewable Energy Generating Facility that generates electricity by concentrating Solar Radiation to heat a working fluid that drives a generator.
- (5) "Electrical Capacity" means the installed maximum potential alternating-current electricity generating capacity, in kilowatts, of a Renewable Energy Generating Facility.
- (6) "Hybrid Facility" means a Renewable Energy Generating Facility that generates electricity from two or more Renewable Energy Sources.
- (7) "Hydropower" means the energy of moving water, including wave energy, ocean thermal energy conversion, and tidal energy.
- (8) "Non-Wood-Burning Generating Facility" means a Renewable Energy Generating Facility that generates electricity from Biomass and that is not a Wood-Burning Generating Facility.
- (9) "Offshore Wind Generating Facility" means a Wind Generating Facility that is located in an ocean water depth of at least 20 meters.
- (10) "Onshore Wind Generating Facility" means any Wind Generating Facility that is not an Offshore Wind Generating Facility.
- (11) "Photovoltaic Generating Facility" means a Renewable Energy Generating Facility that generates electricity from unconcentrated Solar Radiation.
- (12) "Renewable Energy" means electricity generated by a Renewable Energy Generating Facility from a Renewable Energy Source.

HAWAIIAN ELECTRIC COMPANY, INC.

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- (13) "Renewable Energy Generating Facility" means any identifiable facility, plant, installation, project, equipment, apparatus, or the like, located in the State of Hawaii, placed in service after the effective date of this Schedule, and that generates Renewable Energy from a Renewable Energy Source.
- (14) "Renewable Energy Generator" means any person that owns, controls, operates, manages, or uses a Renewable Energy Generating Facility to produce Renewable Energy from a Renewable Energy Source.
- (15) "Renewable Energy Source" means the following sources of energy:
  - (a) Biomass;
  - (b) Biogas;
  - (c) Geothermal Energy;
  - (d) Landfill Gas;
  - (e) Sewage Treatment Plant Gas;
  - (f) Hydropower;
  - (g) Solar Radiation;
  - (h) Wind.
- (16) "Wood-Burning Generating Facility" means a Renewable Energy Generating Facility that burns wood to generate electricity.
- (17) "Wind Generating Facility" means a Renewable Energy Generating Facility that generates electricity from Wind.

#### Interconnection

At the request of a Renewable Energy Generator that places a Renewable Energy Generating Facility in service, the Company shall interconnect such Renewable Energy Generating Facility to the electric system of the Company, provided that technical requirements set forth in the Company's Rules relating to interconnection of generating facilities with the Company's electric system, as approved by the Public Utilities Commission, are met. Costs incurred by the Company to meet technical requirements of interconnection shall be allocated so that those costs that benefit a Renewable Energy Generating Facility are borne by the Renewable Energy Generator that uses the Renewable Energy Generating Facility to produce Renewable Energy, in conformity with orders of the Public Utilities Commission relating to distributed generation in the State of Hawaii. Each of the Company and the Renewable Energy Generator shall disclose to the other, within 6 weeks of a request by the other, any and all data, relating to the electric system of the Company or the Renewable Energy Generating Facility of the Renewable Energy Generator, necessary to plan and execute such interconnection in conformity with such technical requirements.

A Renewable Energy Generating Facility shall be designed to operate in parallel with the Company's electric system without adversely affecting the operations of its customers and without presenting safety hazards to personnel of the Company or its customers. The Renewable Energy Generator shall furnish, install, operate and maintain facilities such as relays, switches, synchronizing equipment, monitoring equipment and control and protective devices designated by the Company and specified in the standard Schedule FIT Agreement ("Schedule FIT Agreement") as suitable for parallel operation with the electric system of the Company. The Renewable Energy Generating Facility and systems interconnecting the Renewable Energy Generating Facility with the Company's electric system must be in compliance with all applicable safety and performance standards of the National Electric Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and the Company's requirements for distributed generation interconnected with the Company's electric system as provided in the Company's Rules, and subject to any other requirements, including payments, as provided in the Schedule FIT Agreement.

Requests to interconnect a Renewable Energy Generating Facility in parallel with the Company's electric system will be processed in accordance with the procedures in Appendix II.

Schedule FIT Agreement:

The Company shall offer a Schedule FIT Agreement, in the form provided in Appendix I, to any Renewable Energy Generator that requests interconnection of a Renewable Energy Generating Facility to the electric system of the Company under this Schedule. Each such Schedule FIT Agreement shall oblige the Company to take all Renewable Energy generated by the Renewable Energy Generating Facility and made available to the electric system of the Company, and shall oblige the Company to purchase and pay for such Renewable Energy at the feed-in tariff rate of compensation (in cents per kilowatt-hour) set forth in this Schedule. The Company shall compensate the Renewable Energy Generator for such Renewable Energy in an amount no less than the number of kilowatt-hours of such Renewable Energy multiplied by such rate of compensation.

With respect to Renewable Energy generated by a Hybrid Facility and delivered to the electric system of the Company, each such Schedule FIT Agreement shall oblige the Company to take all such Renewable Energy, and shall oblige the Company to purchase and pay for such Renewable Energy generated by the Hybrid Facility from each Renewable Energy Source at the feed-in tariff rate of compensation (in cents per kilowatt-hour) for such Renewable Energy set forth in this Schedule.

Procedures for requesting and executing a Schedule FIT Agreement are provided in Appendix II to this Schedule.

Metering:

The Company, at its expense, shall install a meter to record the flow of Renewable Energy delivered to the electric system of the Company. The Renewable Energy Generator shall, at its expense, provide, install and maintain all conductors, service switches, fuses, meter sockets, meter instrument transformer housing and mountings, switchboard meter test buses, meter panels and similar devices required for service connection and meter installations on the premises of the Renewable Energy Generating Facility in accordance with the Company's Rules.

Any energy delivered to a Renewable Energy Generator by the Company will be metered separately from any Renewable Energy delivered by the Renewable Energy Generator to the Company, either by use of multiple meters or a meter capable of separately recording the net inflow and outflow of electricity.

Purchase of Renewable Energy Delivered by a Renewable Energy Generator to the Company:

The Company shall pay for each kilowatt-hour ("kWh") of Renewable Energy delivered to the Company by a Renewable Energy Generator as follows. The capacity limits stated below shall not limit or pertain to the gross output of the Renewable Energy Generating Facility.

Renewable Energy Source: Biomass	
Wood-Burning Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 150 kW	17.18
> 150 kW and ≤ 500 kW	13.51
> 500 kW and ≤ 5000 kW	12.18
> 5000 kW	11.45

Renewable Energy Source: Biomass	
Non-Wood-Burning Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 150 kW	28.00
> 150 kW and ≤ 500 kW	24.00
> 500 kW and ≤ 5000 kW	22.00
> 5000 kW	21.00

Renewable Energy Source: Biogas	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 150 kW	17.18

> 150 kW and ≤ 500 kW	13.51
> 500 kW and ≤ 5000 kW	12.18
> 5000 kW and ≤ 20000 kW	11.45

Renewable Energy Source: Geothermal Energy	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 10000 kW	23.49
> 10000 kW	15.41

Renewable Energy Source: Landfill Gas or Sewage Treatment Plant Gas	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 500 kW	13.21
> 500 kW and ≤ 5000 kW	9.10

Renewable Energy Source: Hydropower	
Renewable Energy Generating Facility Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 500 kW	18.60
> 500 kW and ≤ 2000 kW	12.70
> 2000 kW and ≤ 5000 kW	11.23
> 5000 kW and ≤ 10000 kW	8.62
> 10000 kW and ≤ 20000 kW	7.93
> 20000 kW and ≤ 50000 kW	5.86
> 50000 kW	4.70

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Oahu Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 10 kW	47.9
≥ 10 kW and ≤ 100 kW	43.6
≥ 100 kW and ≤ 500 kW	39.6
≥ 500 kW and ≤ 5000 kW	36.3
≥ 5000 kW	33.0

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Maui	
<u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 10 kW	52.7
≥ 10 kW and ≤ 100 kW	47.9
≥ 100 kW and ≤ 500 kW	43.6
≥ 500 kW and ≤ 5000 kW	39.9
≥ 5000 kW	36.3

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Molokai	
<u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 10 kW	57.5
≥ 10 kW and ≤ 100 kW	52.3
≥ 100 kW and ≤ 500 kW	47.5
≥ 500 kW and ≤ 5000 kW	43.6

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Lanai	
<u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 10 kW	57.5
≥ 10 kW and ≤ 100 kW	52.3
≥ 100 kW and ≤ 500 kW	47.5
≥ 500 kW and ≤ 5000 kW	43.6

Renewable Energy Source: Solar Radiation	
Photovoltaic Generating Facility Located on Hawaii	
<u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 10 kW	53.7
≥ 10 kW and ≤ 100 kW	48.8
≥ 100 kW and ≤ 500 kW	44.4
≥ 500 kW and ≤ 5000 kW	40.7
≥ 5000 kW	37.0

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Oahu <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 500 kW	33.0
> 500 kW and ≤ 5000 kW	28.0
> 5000 kW and ≤ 10000 kW	25.0
> 10000 kW and ≤ 20000 kW	22.0

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Maui <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 500 kW	35.0
> 500 kW and ≤ 5000 kW	30.0
> 5000 kW and ≤ 10000 kW	27.0
> 10000 kW and ≤ 20000 kW	25.0

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Molokai <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 500 kW	38.0
> 500 kW and ≤ 5000 kW	33.0

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Lanai <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 500 kW	40.0
> 500 kW and ≤ 5000 kW	35.0

Renewable Energy Source: Solar Radiation	
Concentrating Solar Power Facility Located on Hawaii <u>Electrical Capacity (kW)</u>	<u>Feed-in Tariff Rate (¢/kWh)</u>
≤ 500 kW	37.0
> 500 kW and ≤ 5000 kW	32.0
> 5000 kW and ≤ 10000 kW	29.0
> 10000 kW and ≤ 20000 kW	27.0

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Oahu Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 10 kW	37.3
> 10 kW and ≤ 50 kW	31.9
> 50 kW and ≤ 250 kW	31.9
> 250 kW and ≤ 500 kW	31.9
> 500 kW and ≤ 1000 kW	30.6
> 1000 kW and ≤ 2500 kW	29.2
> 2500 kW and ≤ 5000 kW	27.9
> 5000 kW and ≤ 20000 kW	26.6

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Maui Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 10 kW	40.3
> 10 kW and ≤ 50 kW	34.9
> 50 kW and ≤ 250 kW	34.9
> 250 kW and ≤ 500 kW	34.9
> 500 kW and ≤ 1000 kW	33.6
> 1000 kW and ≤ 2500 kW	32.2
> 2500 kW and ≤ 5000 kW	30.9
> 5000 kW and ≤ 20000 kW	29.6

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Molokai Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 10 kW	43.3
> 10 kW and ≤ 50 kW	37.9
> 50 kW and ≤ 250 kW	37.9
> 250 kW and ≤ 500 kW	37.9
> 500 kW and ≤ 1000 kW	26.6
> 1000 kW and ≤ 2500 kW	35.2
> 2500 kW and ≤ 5000 kW	33.9
> 5000 kW and ≤ 20000 kW	32.6

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Lanai Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 10 kW	44.3
> 10 kW and ≤ 50 kW	38.9
> 50 kW and ≤ 250 kW	38.9
> 250 kW and ≤ 500 kW	38.9
> 500 kW and ≤ 1000 kW	37.6
> 1000 kW and ≤ 2500 kW	36.2
> 2500 kW and ≤ 5000 kW	34.9
> 5000 kW and ≤ 20000 kW	33.6

Renewable Energy Source: Wind	
Onshore Wind Generating Facility Located on Hawaii Electrical Capacity (kW)	Feed-in Tariff Rate (¢/kWh)
≤ 10 kW	40.3
> 10 kW and ≤ 50 kW	34.9
> 50 kW and ≤ 250 kW	34.9
> 250 kW and ≤ 500 kW	34.9
> 500 kW and ≤ 1000 kW	33.6
> 1000 kW and ≤ 2500 kW	32.2
> 2500 kW and ≤ 5000 kW	30.9
> 5000 kW and ≤ 20000 kW	29.6

Renewable Energy Source: Wind	
Offshore Wind Generating Facility Years of Agreement Term	Feed-in Tariff Rate (¢/kWh)
Years 1 through 12	22.02
Years 13 through 20	5.14

The Commission shall periodically adjust the Schedule FIT feed-in tariff rates of compensation in accordance with the procedures provided in Appendix III of this Schedule. The Renewable Energy Generator shall receive the feed-in tariff rate of compensation in effect at the time of execution of the Schedule FIT Agreement for the entire term of the Schedule FIT Agreement.

Term of Schedule FIT Agreement:

The term of the Schedule FIT Agreement will be as follows, commencing on the initial delivery of Renewable Energy under the Schedule FIT Agreement from the Renewable Energy Generator to the Company:

HAWAIIAN ELECTRIC COMPANY, INC.



<u>Renewable Energy Source</u>	<u>Term of Agreement</u>
Biomass	20 years
Biogas	20 years
Geothermal Energy	20 years
Landfill Gas	20 years
Sewage Treatment Plant Gas	20 years
Hydropower	20 years
Solar Radiation	20 years
Wind	20 years

#### Net Energy Metering

A Renewable Energy Generator that is eligible to enter into a net energy metering agreement with the Company shall have a choice of either (1) entering into a net energy metering agreement with the Company, or (2) entering into a Schedule FIT Agreement with the Company.

#### Penetration Limits for Intermittent Renewable Energy Sources

The obligations of the Company to interconnect a Renewable Energy Generating Facility to the Company's electric system and to offer an Schedule FIT Agreement to a Renewable Energy Generator to purchase and pay for Renewable Energy at a feed-in tariff rate of compensation under this Schedule shall not apply with respect to Renewable Electricity produced by a Renewable Energy Generating Facility that is (i) a Wind Generating Facility, and that is placed in service after December 31 of the year following the year during which the aggregate Electrical Capacity of Renewable Energy Generating Facilities that are Wind Generating Facilities as to which technical requirements for interconnection have been met equals or exceeds 25 per cent of the peak demand for such electrical system, provided that the Public Utilities Commission may increase, by rule or order, such aggregate Electrical Capacity limit above 25 per cent of such peak demand, or (ii) a Photovoltaic Generating Facility or a Concentrating Solar Generating Facility, and that is placed in service after December 31 of the year following the year during which the aggregate Electrical Capacity of Renewable Energy Generating Facilities that are Photovoltaic Generating Facilities or Concentrating Solar Generating Facilities as to which technical requirements for interconnection have been met equals or exceeds 50 per cent of the peak demand for such electrical system, provided that the Public Utilities Commission may increase, by rule or order, such aggregate Electrical Capacity limit above the above-referenced 25 per cent and 50 per cent peak demands.

#### Queuing Procedures:

Requests for interconnection of Renewable Energy Generating Facilities under this Schedule shall be administered on a first-ready, first-to-interconnect basis, modeled after the queuing procedures proposed by the Midwest Independent Transmission System Operator, Inc. ("Midwest ISO") and conditionally accepted by the Federal Energy

Regulatory Commission. *See* 124 FERC ¶ 61,183, Midwest Independent Transmission System Operator, Inc., docket No. ER08-1169-000, Order Conditionally Accepting Tariff Revisions and Addressing Queue Reform, August 25, 2008.

Renewable Energy Certificates:

Any certificate, credit, allowance, green tag, or other transferable indicia or environmental attribute, verifying the generation of a particular quantity of energy from a Renewable Energy Source, indicating the generation of a specific quantity of Renewable Energy by a Renewable Energy Generating Facility, or indicating a Renewable Energy Generator's ownership of any environmental attribute associated with such generation, is the property of the Renewable Energy Generator and freely assignable by the Renewable Energy Generator.